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ABSTRACT

An experimental program placed computer terminals in four San Francisco Bay Area public libraries to be used to provide on-line computer search services to library patrons. The first few months of operation of the experiment showed that there was a significant impact on the participating libraries, on the library patrons, and on the community and society at large. Among the observations made of the program were that: providing computer search services is going to cost the library more than just the cost of the computer time used, that librarians must learn new skills to be effective searchers, that search services require a high degree of interlibrary cooperation and communication, that many of the clients for these services will be people who would not ordinarily use public libraries, and the community will develop an increasing awareness of the power of information. (JY)

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THE IMPACT OF ON-LINE SEARCH SERVICES ON LIBRARY OPERATIONS AND USERS

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On January 21 of this year the San Jose City Public Library submitted a routine request to the city council that they be excused from participating in an NSF-OSIS sponsored project called DIALIB which was providing on-line search services through public libraries in San Mateo and Santa Clara Counties. In the request, the city librarian explained that recent staff cuts together with a high demand for on-line searches, were having an adverse impact on other services of the library.

Surprisingly, the San Jose City Council voted against terminating the experiment; with several council members commenting that the program was providing real services and should be continued.

The story has a happy ending for both sides, however. The council instructed the city manager's office to work with both the library and San Jose State University (university students were responsible for more than 50 percent of the requests) to work out some solution. A San Jose State graduate student in library science now works at the city library for six hours a week to assist the library staff in performing searches. The student gets credit for her work and, since she happens to be experienced in on-line searching, the library staff is free to perform their other functions.

This is a prime example of the impact of computer search services on public library operations and points up the need for research to explore this area.

The DIALIB project is a major effort to determine the potential for providing on-line search services through public libraries and to predict what the impact of such services will be both on the libraries and library patrons. In this project the Lockheed Palo Alto Research Laboratory (Oscar Firschein, Project Director) is cooperating with the Cooperative Information Network, a multi-county cooperative library network located in the San Francisco Bay area. Four libraries have been selected to serve as search centers - two city libraries, one county library and one county reference facility. Each center is provided with a computer terminal to access DIALOG services. Initially, two librarians from each library received training on the DIALOG system. They then trained other librarians both at their own facilities and at other libraries in their organization. During the first year the libraries pay only the telephone line charges involved in searching - each library received 16 hours of demonstration time and 16 hours of search time. During the second year each library will be required to pay 50% of the search costs with 16 hours of demonstration time and 32 hours of search time available. By the third year of the project, the libraries will be expected to pay the full costs of searching plus the terminal rental costs.

Library patrons can request a computer search through any library in either of the two counties. Query negotitaions are handled locally and the completed search request forms are forwarded to the terminal-equipped libraries for searching.

This is not a rigid experiment, but rather a flexible working agreement. Each library is free to structure its services as it wishes. There is constant coordination and communication on the working librarian level and, in addition, there are frequent meetings between the project staff, the evaluation staff, and the heads of the participating libraries. As a result, the libraries have played a very active role in this project from the beginning.

Our group - Applied Communication Research - serves as an independent evaluator of the DIALIB project. Because of the importance of this study it is being intensively evaluated - in fact, the 100 percent sampling we are employing would most probably be termed "over evaluation" but we feel it is important for this project.

Data collected for the evaluation includes:

A combination query negotiation and search history form filled out at the library,

A detail sheet from the DIALOG computer describing the computer search, and

a follow-up questionnaire which is sent to each library patron who receives a DIALOG search.

In addition, we also plan, but have not yet implemented, followup interviews with a sample of patrons and interviews with the librarians who are participating in the project. Also, we now have in the field a separate sub-study being conducted by Mike Cooper of the Berkeley School of Librarianship to determine the time-cost of doing DIALOG searches in the libraries.

The DIALIB project has now been in full operation for approximately seven months, so it is early to make statements based on the empirical evaluation data.

Here are some summary figures from late January, however, to give some indication of what is happening.

We are getting approximately 200-250 searches per month from our libraries.

The mean search time (this is connect time only) is about 30 minutes. Search preparation time also averages around 30 minutes.

The patrons requesting searches seem to be primarily people who do not ordinarily use public libraries. The largest group is composed of technical professionals, and a large proportion of their searches are job-related. The next highest group is composed of college students, then education professionals and professional library personnel. As a group, people requesting searches tend to be much more highly educated than the usual public library patron. More than 80 percent were college graduates and more than 40 percent had advanced degrees.

The most popular data bases are (in order) NTIS, ERIC, Psychology Abstracts and Social Science Citations. The various DIALOG technical data bases all show just about equal use.

Feedback from users indicate that almost 70 percent feel the results of their searches were of considerable or major value. Not surprisingly, we are seeing a high degree of repeat usage.

The next set of observations concern the potential impact of on-line search services on the library, the user, and the community. They are, of course, based on limited experience and will undoubtedly have to be modified once the libraries start to charge for their services...

IMPACT ON THE PUBLIC LIBRARIES

1. Providing computer search services is going to cost - beyond the costs for the searching.

It takes time to train the staff members to search successfully. Approximately one and a half days of training and practice are required to learn the DIALOG system and then the searcher msut learn the idiosyncrasies of individual data bases. Also, several of the impact areas discussed below have cost implications.

2. Provision of search services requires a high degree of inter-library cooperation and communication.

It does not seem feasible to have a terminal at every library. A "critical mass" of search requests are needed to create an efficient search staff. This suggests that libraries must route search requests to a central search library. One of our major problems in the early stages of this experiment was convincing the libraries to accept common forms for search requests. If our experiences are any guide, this may be a major barrier to the viability of on-line searching via public libraries.

3. Librarians must learn new skills - particularly how to serve as "interface" personnel.

The use of on-line searches at the public library will create demand for new kinds of documents not normally found in public libraries and for new, sophisticated information packages. Initially, librarians will not have access to these sources in their own libraries and should learn to serve as an interface, directing patrons to these new sources.

4. The role of the public library will change.

Most public libraries are seen as static information sources. The provision of on-line searching will make them appear more dynamic. They will begin to attract a new type of patron - one who is more sophisticated in his information needs. To meet these needs, be they from city government, from area industries or from local citizens, the library must begin to acquire more sophisticated sources and to provide more sophisticated services.

5. The changing role of the library will make the library more visible in the politics of local government.

This observation comes directly from the San Jose experience and from the fact that many municipal agencies in San Jose are using the search services. Once a library begins to provide more sophisticated services, it will find it very difficult to downgrade them. Unless careful planning has preceded the introduction, the library may find itself with an unmanagable problem.

6. Fee-for-service will have a very profound impact on the public library.

It seems reasonable to expect libraries to charge for on-line searching, and perhaps for other sophisticated information services. The four libraries involved in our study in California are now actively planning for how they will charge for service beginning next July.

Major questions involved in setting fees are:

How much to charge - should you charge only for the search costs (and printing) or should you also charge for staff time required for negotiation and searching?

Should you charge a flat fee, or should searches be charged on actual time required?

Given that the average computer search costs will be around $30 (based on $1 per minute) should there be a sliding scale which covers commercial clients more, so private clients (particularly school children) can be charged less?

Should search fees be used to support other library services?

How will the search fees be collected?

Implicit in all these questions are problems of accounting in the libraries, the political impact of charging for library services, etc.

One last comment on the impact on libraries. In one of our libraries, people are already using the computer terminal used for on-line searching for other purposes - primarily for accessing other computer services. This suggests that perhaps the library terminal could be used for other kinds of services. Maybe the library could provide access to other computer services through some commercial computer system such as TYMESHARE, as well as use services themselves (e.g. BALLOTS).

IMPACT ON THE PATRON

1. Providing on-line search services through the public libraries will allow a large group of people, who would not otherwise be able to afford it, access to computer searching.

2. Many of the clients for these services will be people who would not ordinarily use public libraries - primarily highly educated professional and technical people.

3. This new class of users will be more sophisticated information seekers - they will be aware of (or will learn about) new information sources and will generate a demand for these services at the public library level.

4. There will be an increasing reliance on the public library by these patrons - and the more services they are provided through the public libraries, the greater will be their reliance on them.

IMPACT ON THE COMMUNITY AND SOCIETY

1. The main impact on the community, we see, is an increasing awareness of the power of information.

> Information is power and, unfortunately its distribution seems to be influenced by the Matthew effect - those that have, get more. We now have what could best be termed as "information elite" and as information tools have become more sophisticated, the gap between the information elite and everyone else has become larger and larger.
>
> Providing on-line search services through public libraries, and the resulting increasing sophistication of the public library, will hopefully do something to reverse this trend. We all read about the day when everyone will have computer terminals in the home and complete access to vast data banks. Such dreams are coming more real day by day - but it will be at least one decade - or maybe two - before they become reality. Terminals in public libraries where everyone can have access to them are possible now.

We will probably see new kinds of data bases, as a new user population develops - community service data bases, consumer data bases, data bases for do-it-yourselfers, etc.

In addition, we may see an increasing public awareness of and interest in continuing education programs which may, in turn generate needs for still more data bases.

We have all read about what will happen when we can put a computer terminal in every home - it sounds impressive and it will be, but that day is still one to two decades off. We can put computer terminals in public libraries now - and everyone will have access to them. These terminals could provide many kinds of service; on-line searching is only one possibility. Such services can be provided at an economical cost through the public libraries, and when they are provided, they will have a very profound impact not only on the libraries, but on the users and their communities as well.